



Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

A METHOD FOR PLANT TRANSFORMATION BASED ON THE POLLINATION-FECUNDATION PATHWAY AND THE PRODUCTS THEREOF

RECEIVED

the specification of which

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(check one)

TECH CENTER 1600 290

is attached hereto.

was filed on April 19, 2000 as United States Application No. or PCT International

Application Number 09/552,147

and was amended on

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

(Number)

(Country)

(Day/Month/Year Filed)

(Number)

(Country)

(Day/Month/Year Filed)

(Number)

(Country)

(Day/Month/Year Filed)

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Application Serial No.)

(Filing Date)

(Status)

(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)

(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)

(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

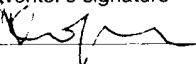
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Rashida A. Karmali, Esq.

Reg. No. 43,705

Send Correspondence to: **Rashida A. Karmali, Esq.**
230 Park Avenue, Suite 1000
New York, N.Y. 10169

Direct Telephone Calls to: (name and telephone number)
(212) 808-6589

Full name of sole or first inventor Abraham KOROL	Sole or first inventor's signature 	Date 28/10/61
Residence Oren 20/3, Haifa, Israel		
Citizenship Israeli		
Post Office Address same as above		

Full name of second inventor, if any Tzion FAHIMA	Second inventor's signature 	Date 29/10/61
Residence 25/16 Maimon Street, Haifa, Israel		
Citizenship Israeli		
Post Office Address same as above		

Full name of third inventor, if any
Eviator NEVO

Third inventor's signature

Eviator Nevo

Date

30.10.01

Residence
3 Hazaz Street, Haifa 31905, Israel

Citizenship
Israeli

Post Office Address
same as above

Full name of fourth inventor, if any

Fourth inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of fifth inventor, if any

Fifth inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of sixth inventor, if any

Sixth inventor's signature

Date

Residence

Citizenship

Post Office Address



HS
Court

Docket No. 112.002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Korol, Abraham et al.

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SERIAL NO.: 09/552,147

Group Art Unit: 1638

FILED: April 19, 2000

TECH CENTER 1600

Examiner: Kubelik, A.

FOR: A METHOD FOR PLANT TRANSFORMATION BASED ON A POLLINATION-FECUNDATION PATHWAY AND THE PRODUCTS THEREOF

Declaration of Professor Abraham Korol

Pursuant to 37 C.F.R. 1.132(a)

1. I am an inventor in the above referenced application. I am currently a professor of Genetics, in the Department of science at the University of Haifa, in Israel. I am also President of MultiQTL Limited, a Company located in Haifa, Israel, and the assignee of the above referenced application.
2. The following responses represent our answers to the Office Action of April 11, 2002.
3. We are seeking patent protection for methods for genetic transformation of a plant reproducing sexually, using the pollination-fecundation process involving silicon carbide fibers.
4. We have thus far tested our invention in a number of plants including maize, tomato or melon in the field.
5. We submitted the detailed experimental protocols for maize in the above referenced patent application and submitted claims for a method that is applicable generally to sexually reproducing plants.
6. However, the Office Action dated April 11, 2002, has rejected our claims as being non-enabling as to plants other than maize because we did not include our data for other plants.

7. Therefore, we have cancelled claims which refer to sexually reproducing plants in general.
8. The requested protocol and data for transforming melon and tomato is as follows:

Tomato Transformation:

Pollen was collected from at least 50-100 flowers per pollen preparation. The steps of the treatment procedure were identical to those of the maize, as described in application No. 09/552,147, with the exception of the following:

- (a) The content of the pollen germination medium was as follows:

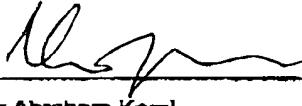
Sucrose: 15-20%
 H_3BO_3 : .012%
 $Ca(NO_3)_2 \cdot 4H_2O$: .04-.06%
- (b) The concentration of the transforming DNA plasmid was 25-100 $\mu g/ml$.

In the case of tomato, the vortexing step can be from 60 to 180 seconds. The plasmids used were pCT2T3 and pGV1501, which carry the NOS promoter expressing the nptII gene as a selectable marker, which provides kanamycin resistance. After pollination, about 400 seeds were collected. The selection of transformants was conducted using sterile ^{in medium supplemented with kanamycin} ~~in vitro~~ conditions. About 2% resistant genotypes were selected. Like in the maize experiments, the isolated putative transformants displayed the expected 1:1 segregation with respect to pollen tube lengths, when pollen germination was conducted in artificial medium containing kanamycin (500 $\mu g/ml$). *LG*

Melon Transformation:

The transformation was conducted using the same steps as were used for tomato. 80 flowers were treated, resulting in 9 fruits. Of the 9 fruits, 4 carried seeds, albeit at a reduced number (20-250 instead of the usual 400-500). A total of 600 seeds were obtained which were then used to select transformants as above. Four kanamycin resistant genotypes were detected, and a preliminary Southern Blot analysis showed the presence of the nptII gene. *LG*

9. Although the protocol has not been optimized, to do so would only require carrying out routine and simple dose-response studies. No undue experimentation was required to get results in tomato and melon, and no undue experimentation would be required to optimize the procedure. We have not done so because we were only interested in showing that the procedure can work for those plants, believing optimization to be a simple, straightforward step that can be done by anyone skilled in the art.
10. I hereby declare that all statements made herein to my knowledge are true, and all statements made on information and beliefs are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, and patent issuing thereon.

BY: 

Professor Abraham Korol

Date: 03.07.02